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Description of DE20010913U

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<Desc/Cims PAGE NUMBER 1>

EM11.1

EM11.2

ches 1. Such plates are used mainly for shifting as laminate floor, whereby the use is likewise possible as Decken- und of wall panels.

The US-A-4426820 reveals plates, which can be put for the production of a floor mat in ein other. The flat preferably consisting of plastic ten exhibit a kind groove feather/spring connection, whereby the feather/spring moves einge into the groove become can. For this the feather/spring points a diagonally running upper Edge up, so that the pointedly approaching feather/spring profile formed into that corresponding ausge for groove profile be inserted can. At the lower groove lip a projection/lead is trained, which menhält as bolting device means of two into one another put profiles zusam. During the profile connection shown the disadvantage exists that by these Profile a complete form closure is not reached and small column out to form to be able itself, since the profiles are together held only by the bolting device means.

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Furthermore it is well-known from the EP 843753 to make a floor covering available from a timber material which is formed from several into one another added panels. The panels exhibit slots and feathers/springs, which are into one another tiltable or adjustable at opposite sides. At the feather/spring thereby a projection/lead is trained, which cooperates with a bolting device means trained at the lower groove lip, in order to produce a Klemmkraft between the individual plates. The Klemmkraft is made available by the flexible lower groove lip, which out-stands partly downward, so that it is not possible to make even floor covering of these plates. As soon as the plates within the range of the groove lip out-standing downward are loaded, this leads to deformations at the plate. Furthermore the Klemmkräfte between the individual plates are limited due to the small height of the Vorsprünge at the feather/spring.

It is therefore task of the available invention to make a plate available of the kind initially specified with that <the RTI ID=0.0> retaining forces </RTI> between two plates in the shifted Condition are improved and even group of several plates ermögli chen.

This task is solved with a plate with the characteristics of the requirement 1.

If a managing section of the feather/spring profile, which stood in joined in the groove profile intervenes, is held wedge-like in the groove profile, auxiliary is produced lich for other bolting device means a keying effect, which holds the profiles together. From timber material and/or. lignozellulosehaltigem material pores, those possess standing plates with <the RTI ID=0.0> wedge-like engaging </RTI> together to be tossed. As soon as the material was tossed slightly within the range of the wedge-like feather/spring, a slight expansion arises, so that the feather/spring is jammed continuous detention. Additionally the groove profile and the feather/spring profile point a ge know surface roughness up, which a Auseinanderbewegen of the plates prevents due to the Klemmkräfte. This keying effect between feather/spring and groove he

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mögliicht the production particularly more closely floor mats, with which the adjacent plates exhibit a minimum water permeability.

In accordance with a preferential <RTI ID=0.0> execution form </RTI> of the invention is the feather/spring profile in the range of the wedge-shaped connection <RTI ID=0.0> positively </RTI> in the groove profile held. For the reinforcement of the retaining forces thereby additionally a Klemmkraft can be produced over the contact area of the lower groove lip.

Preferably the out-standing section of the feather/spring profile exhibits an upper and a lower wall surface, which run bent or curved to the even surface. In order to obtain a sufficient wedge effect, the inclination with can do spieisweise 20 to <RTI ID=0.0>, 300 </RTI> to the even surface amount to. If the upper wall surface is curved trained bent and the lower wall surface, the feather/spring profile can be introduced particularly well to the groove profile. The curvature at the lower

Wall surface trains a guidance, around two plate into one another swivels too kön nen.

The above task is solved also with a plate of the kind initially specified, with which at the groove profile at the lower groove lip a Verdickung is intended, at which bent the running contact area and one essentially parallel to the even surface running edition edge is trained, and beside the Kon clock surface a gap between the lower groove lip and a

section of the feather/spring of profile is trained. During a load of the groove profile in the joined condition a clamping effect is produced by the even edition edge by the contact surface, which causes a further squeezing together of the plates and also with extreme loads within this range a Auseinanderbewegen of the plates en prevents.

The invention is more near described in the following on the basis two remark examples with reference to the attached designs. Show:

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#### EMI4.1

Fig. 3 a cross section opinion of a feather/spring profile of the plate according to invention of the Fig. 1; Fig. 4 a cross section opinion of a groove profile and a feather/spring profile, which straight are into one another added; Fig. 5 a cross section opinion of a groove profile and a feather/spring profile in SAM-mix-added condition, and Fig. 6 a cross section opinion of a second execution according to invention of example Nut-und of feather/spring profile.

In Fig. 1 is a plate 1 from a lignozellulosehaltigen material, how a HDF plate (HDF plate = High Density has a temperature to board) shown, which exhibits over-lying transverse edges a groove profile 2 and a feather/spring profile 3 at two counter. To that

Longitudinal folds are likewise a groove profile 5 and a feather/spring profile 4 intended. The groove profiles 3 and 5 as well as the feather/spring profiles 2 and 4 are identically trained, it can however also for crosswise or the long sides other profile types be used. The plate 1 can be trained also as thin chip board, plywood, OSB, plastic plate or mineral material plate. The plate 1 can thereby for in sentence as <RTI ID=0.0> laminate floor< /RTI> covered with a decoration layer its.

The groove profile 4 exhibits a plant edge 7, which runs downward to the level of the coating 6 vertically. The groove points an upper bent running Wandflä <RTI ID=0.0> chie< /RTI> 8, one curved trained soil 9 and one curved running untere wall surface 10 up. The curved lower wall surface an even soil range 11 follows 10.

At the lower groove lip a Verdickung is 13 ausge forms, their height about half of the height of the plate amounts to in the out-standing range. At the Verdickung a contact area 12 is trained 13, which runs bent to the even surface layering 6. The inclination is so limited with the fact that in the cross section zwi

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schen the inclination and the Senkrechten to a connecting line R by the upper edge of the contact surface 7 and the upper edge of the coating 6 as the upper end of the contact area 12 an angle ss are trained, that between 5 and <RTI ID=0.0> 15,< /RTI> preferably <RTI ID=0.0>,100 amounts to.</RTI> at the Verdickung 13 is trained a bearing surface 21, which runs parallel to the even floor space. As in Fig. 2 is represented, forms the Senkrechte of the wall surface 8 to the connecting line R a pointed angle from for example within a range from <RTI ID=0.0>,200 to 400 is appropriate< for /RTI> can.

The groove profile 5 exhibits a contact surface 14 within the range of the coating 6, underneath which a recess 15 is left blank. The front section of the feather/spring profile 5 is formed by an upper wall surface 16, a rounded point 17 and a lower curved wall surface 18. To the curved wall surface a neglected section 19 attaches 18, that over a roundness with one

Contact area 20 is connected. The feather/spring profile 5 is provided following the contact surface 20 with a bearing surface 22.

Engaging a groove profile 4 and a feather/spring profile 5 is described in the following regarding the figures 4 and 5.

The feather/spring profile 5 becomes first loosely 4 elnge into the groove profile which is because of the soil adds, until the contact surface 7 of the groove profile 4 at the contact surface 14 feather/spring pro fils 5 the lower wall surface 10 of the groove profile 4 at the lower wall surface 18 of the

Feather/spring profile 5 and the contact areas 12 and 20 fit together. In this position the lining can do 6 at the feather/spring profile 5 still easily over the lining 6 at the groove profile 4. Furthermore an angle A is trained in this position between the even groove profile and the loosely fitting feather/spring profile 5 in the range of the surface.

Around those plate with the feather/spring profile 5 with shifted, which can be shifted again, the already To join plate with the groove profile 4, the feather/spring profile 5 swung into the groove pro fell 4. The curved lower wall surface serves 10 and those

<Desc/Cims PAGE NUMBER 6>

Contact area 12 at the groove profile 4 as a guidance assistance, until the upper wall surface 16 of the feather/spring rests against the upper wall surface 8 the Nutprofil4. The Fe that profile 5 slightly into the groove profile 4 is in-moved, so that a keying of the feather/spring profile 5 in the groove profile 4 takes place. This wedge effect prevents also that during a load of the groove profile 4 within the range of the out-standing section of the feather/spring profile 5, this is squeezed out of the groove profile 4. Also a vertical load within the range of the contact area 12 provides if necessary for a stronger keying of the feather/spring profile 5 in the groove profile 4, since between the feather/spring profile 5 and the section 19 of the groove profile a gap is trained.

In Fig. a second execution form of a connection according to invention of a groove profile 4 ' and a feather/spring profile 5 ' two plates is represented 6. With this remark example the groove profile 4 is ' provided for the admission of a feather/spring profile 5 ' likewise with a plant 7 ' or wedge-shaped wall surfaces 8 ' and 10 ', while at the feather/spring profile 5 ' a contact surface 14 ' and wedge-shaped wall surfaces 16 ' and 18 are trained '.

In the range of the lower groove lip a Verdickung 13 is intended ', which has a ge ringere height as with the first remark example. Thus is also those

Contact area 12 ' and/or. 20 ' more briefly trained. Around the feather/spring profile 5 ' better into that

Groove profile 4 ' to introduce to be able, is a bevel 21 ' at the groove profile 4 ' and one  
EMI6.1

Introduction of the feather/spring profile 5 ' into the groove profile 4 ', however the retaining forces are also smaller by the Verdickung 13 ' than with the first remark example. The wedge effects are however just as present due to the identical training of the groove profile 4 ' and the feather/spring profile 5 ' in this range.



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EMI7.1

EMI7.2

Edge profiles (2,3; 4,5; 4', 5'), which are designed as groove profile (4.4') and feather/spring profile (5.5'), those for the education of an even surface from several plates <RTI ID=0.0> (1)</RTI> are into one another addable, whereby the groove profile (4.4') exhibits itself one bent to ebe nen surface extending contact area (12.12'), which rests in the zusam mix-added condition against a contact area' (20.20') of the feather/spring profile (5.5'), in the fact characterized that a managing section of the feather/spring of profile (5.5') intervenes in the joined condition in the groove profile (4.4') and wedge-like in the groove profile (4.4') held is.

2. Plate according to requirement <RTI ID=0.0> 1,</RTI> by the fact characterized that the feather/spring profile (5.5') is held in the range of the wedge-shaped connection (8.9, 10.16, 17.18) positively in the groove profile (4.4').

3. Plate according to requirement 1 or 2, by the fact characterized that the out width unit hende section of the feather/spring profile (5.5') an upper and a lower wall surface (16,18; 16', 18') exhibits, bent or curved to the even surface run.

4. Plate according to requirement 3, by the fact characterized that the upper wall surface (16.16') is curved trained bent and the lower wall surface (18.18').

5. Plate after one of the preceding requirements 1 to 4, thus gekenn draws that the feather/spring profile (5.5') of a second plate into the groove profile (4, <RTI ID=0.0> 4')</RTI> of a first plate is swingable, whereby the contact area (12.12') and un tere curved wall surface (10.10') works a guidance of the lagging.

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EMI8.1

7. Plate after the generic term of the requirement <RTI ID=0.0> 1,</RTI> bent thereby characterized that that is seen at the groove profile (4) at the lower groove lip to the Verdickung (13) pre, at which the running contact area (12) and in the incoming goods sentlichen parallel to the even surface a running edition edge (21) ausge forms is, and beside the contact area (12) a gap between the lower Groove lip and a section (19) of the feather/spring profile (5) are trained.

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